eXmark®

FR524/FR604/ FR724

For Serial Nos.
720,000 & Higher
Part No. 4500-230 Rev. A

Operator's Manual

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Introduction

CONGRATULATIONS on the purchase of your Exmark Cutting Deck. This product has been carefully designed and manufactured to give you a maximum amount of dependability and years of trouble-free operation.

This manual contains operating, maintenance, adjustment, and safety instructions for your Exmark mower.

BEFORE OPERATING YOUR MOWER, CAREFULLY READ THIS MANUAL IN ITS ENTIRETY.

By following the operating, maintenance, and safety instructions, you will prolong the life of your mower, maintain its maximum efficiency, and promote safe operation.

If additional information is needed, or should you require trained mechanic service, contact your authorized Exmark equipment dealer or distributor.

All Exmark equipment dealers and distributors are kept informed of the latest methods of servicing and are equipped to provide prompt and efficient service in the field or at their service stations. They carry ample stock of service parts or can secure them promptly for you from the factory.

All Exmark parts are thoroughly tested and inspected before leaving the factory, however, attention is required on your part if you are to obtain the fullest measure of satisfaction and performance.

Whenever you need service, genuine Exmark parts, or additional information, contact an Authorized Service Dealer or Exmark Customer Service and have the model and serial numbers of your product ready.

Figure 1 identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.

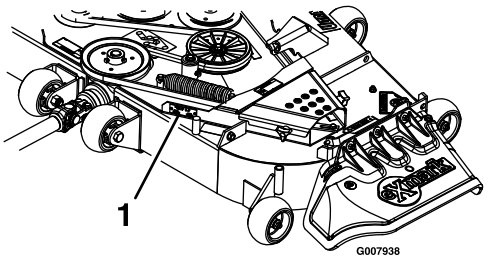

Figure 1

1. Model and serial number location

Model No. _____

Serial No. _____

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Safety

Safety Alert Symbol

This Safety Alert Symbol (Figure 2) is used both in this manual and on the machine to identify important safety messages which must be followed to avoid accidents

This symbol means: **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**

Figure 2

1. Safety alert symbol

The safety alert symbol appears above information which alerts you to unsafe actions or situations and will be followed by the word **DANGER**, **WARNING**, or **CAUTION**.

DANGER: White lettering / Red background. Indicates an imminently hazardous situation which, if not avoided, **Will** result in death or serious injury.

WARNING: Black lettering / Orange background. Indicates a potentially hazardous situation which, if not avoided, **Could** result in death or serious injury.

CAUTION: Black lettering / Yellow background. Indicates a potentially hazardous situation which, if not avoided, **May** result in minor or moderate injury.

This manual uses two other words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

Safe Operating Practices

Training

- Read the tractor and cutting deck Operator's Manuals and other training material. If the operator(s) or mechanic(s) can not read English it is the owner's responsibility to explain this material to them.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- All operators and mechanics should be trained. The owner is responsible for training the users.
- Never let children or untrained people operate or service the equipment. Local regulations may restrict the age of the operator.
- The owner/user can prevent and is responsible for accidents or injuries occurring to himself or herself, other people or property.

Preparation

- Do Not modify the FrontRunner cutting deck.
- Only use on machines approved by Exmark.
- Wear appropriate clothing including safety glasses, substantial footwear, long trousers, and hearing protection. Do Not operate when barefoot or when wearing open sandals.

⚠ CAUTION

This machine produces sound levels in excess of 85 dBA at the operator's ear and can cause hearing loss through extended periods of exposure.

Wear hearing protection when operating this machine.

- Inspect the area where the equipment is to be used and remove all rocks, toys, sticks, wires, bones, and other foreign objects which can be thrown by the machine and may cause personal injury to the operator or bystanders.

Operation

- Operate only in daylight or good artificial light, keeping away from holes and hidden hazards.
- Never fold the deck with blades running.
- Stop engine, wait for all moving parts to stop, remove key and engage parking brake:
  - Before checking, cleaning or working on the mower.
  - After striking a foreign object or abnormal vibration occurs (inspect the mower for damage and make repairs before restarting and operating the mower).
  - Before clearing blockages.
  - Whenever you leave the mower.

⚠ WARNING

Hands, feet, hair, clothing, or accessories can become entangled in rotating parts. Contact with the rotating parts can cause traumatic amputation or severe lacerations.

- **Do Not operate the machine without guards, shields, and safety devices in place and working properly.**
- **Keep hands, feet, hair, jewelry, or clothing away from rotating parts.**

- Stop the blades, slow down, and use caution when crossing surfaces other than grass and when transporting the mower to and from the area to be mowed.
- Be alert, slow down and use caution when making turns. Look behind and to the side before changing directions.

Maintenance and Storage

- Disengage PTO, set parking brake, stop engine and remove key or disconnect spark plug wire. Wait for all movement to stop before adjusting, cleaning or repairing.
- Use care when checking blades. Wrap the blade(s) or wear gloves, and use caution when servicing them. Only replace blades. Never straighten or weld them.
- Keep all guards, shields and all safety devices in place and in safe working condition.
- Check all bolts frequently to maintain proper tightness.
- Frequently check for worn or deteriorating components that could create a hazard.
- All replacement parts must be the same as or equivalent to the parts supplied as original equipment.

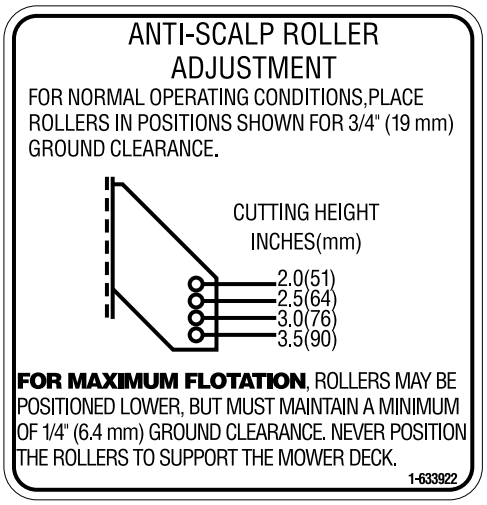
Safety and Instructional Decals

- Keep all safety signs legible. Remove all grease, dirt and debris from safety signs and instructional labels.
- Replace all worn, damaged, or missing safety signs.
- When replacement components are installed, be sure that current safety signs are affixed to the replaced components.
- If an attachment or accessory has been installed, make sure current safety signs are visible.
- New safety signs may be obtained from your authorized Exmark equipment dealer or distributor or from Exmark Mfg. Co. Inc.
- Safety signs may be affixed by peeling off the backing to expose the adhesive surface. Apply only to a clean, dry surface. Smooth to remove any air bubbles.
- Familiarize yourself with the following safety signs and instruction labels. They are critical to the safe operation of your Exmark commercial mower.

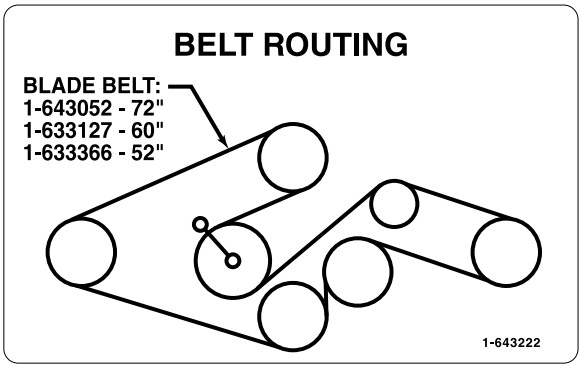
WARNING
DO NOT OPERATE WITHOUT DISCHARGE DEFLECTOR, ENTIRE GRASS COLLECTION SYSTEM, OR MULCH KIT IN PLACE. DO NOT REMOVE GRASS CATCHER UNTIL BLADES HAVE STOPPED.

1-303508

1-403005


ANTI-SCALP ROLLER ADJUSTMENT
FOR NORMAL OPERATING CONDITIONS,PLACE ROLLERS IN POSITIONS SHOWN FOR 3/4" (19 mm) GROUND CLEARANCE.
CUTTING HEIGHT INCHES(mm)
2.0(51)
2.5(64)
3.0(76)
3.5(90)
FOR MAXIMUM FLOTATION, ROLLERS MAY BE POSITIONED LOWER, BUT MUST MAINTAIN A MINIMUM OF 1/4" (6.4 mm) GROUND CLEARANCE. NEVER POSITION THE ROLLERS TO SUPPORT THE MOWER DECK.
1-633922

1-633922

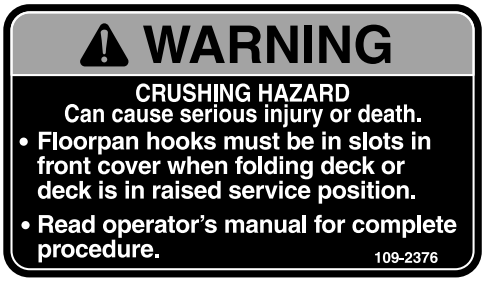


1-643222

98–5954

DANGER
ROTATING DRIVELINE
Can cause serious injury or death.
• Keep all driveline shields in place.
• Securely attach both ends of the driveline.
103-8425

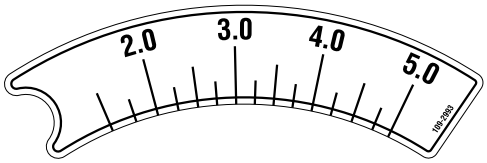
103-8425


WARNING
CRUSHING HAZARD
Can cause serious injury or death.
• Floorpan hooks must be in slots in front cover when folding deck or deck is in raised service position.
• Read operator's manual for complete procedure.
109-2376

109-2376

WARNING
CRUSHING HAZARD
Can cause serious injury.
• Keep hands and feet clear from deck when adjusting or folding deck.
109-2354

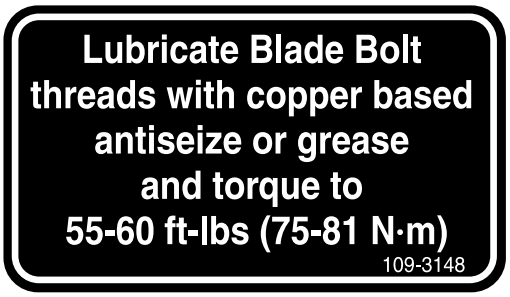
109-2354



109-2993

DANGER
To avoid serious injury or death:
• Avoid blades unless engine and blades are stopped.
WARNING
To avoid serious injury or death:
• Pick up objects that could be thrown by the blades.
• Do NOT mow when people and pets are in the area.
109-2359

109-2359



109-3148

Specifications

Model Numbers

Serial Nos: 720,000 and Higher
FR524; FR604; FR724

Systems

Tires & Wheels

	Front Caster
Type	Semi-Pneumatic
Quantity	2
Tread	Smooth
Size	9 x 3.50–4

Cutting Deck

- Model Numbers:
  - FR524
  - FR604
  - FR724
- Cutting Width:
  - 52 inch Deck: 52 inch (132 cm)
  - 60 inch Deck: 60 inch (152 cm)
  - 72 inch Deck: 72 inch (183 cm)
- Discharge: Side
- Blade Size: (3 ea.)
  - 52 inch Deck: 18.00 inches (45.7 cm)
  - 60 inch Deck: 20.50 inches (52.1 cm)
  - 72 inch Deck: 24.50 inches (62.2 cm)
- Deck Drive:
  - Shaft drive to gearbox at rear of deck.
  - Belt drive from gearbox to blade spindles.
- Deck:

  Full floating deck is attached to out-front support frame. Six anti-scalp rollers provide maximum turf protection. Deck design allows for bagging, mulching, or side discharge.
- Deck Depth:
  - 52 inch Deck: 5 1/2 inches (14 cm)
  - 60 inch Deck: 5 1/2 inches (14 cm)
  - 72 inch Deck: 5 1/2 inches (14 cm)
- Cutting Height Adjustment:

  Adjusts from 1 inch (2.5 cm) to 5 inches (12.7 cm) infinitely variable
- Mulching Kit: Optional

Dimensions

Overall Width:

	52 inch Deck	**60 inch Deck**	**72 inch Deck**
Deflector Down	64.6 inches (164.1 cm)	72.7 inches (184.7 cm)	84.4 inches (214.4 cm)
Deflector Up	53.9 inches (136.9 cm)	61.4 inches (156.0 cm)	73.3 inches (186.2 cm)

Overall Length:

52 inch Deck	**60 inch Deck**	**72 inch Deck**
42.5 inches (108.0 cm)	42.3 inches (107.4 cm)	45.5 inches (115.6 cm)

Overall Height:

52 inch Deck	**60 inch Deck**	**72 inch Deck**
18.0 inches (45.7 cm)	18.0 inches (45.7 cm)	18.0 inches (45.7 cm)

Specifications

Curb Weight:

52 inch Deck	60 inch Deck	72 inch Deck
393 lb (178 kg)	434 lb (197 kg)	514 lb (233 kg)

Torque Requirements

Bolt Location	Torque
Blade Mounting Bolt (lubricate with anti-seize)	55-60 ft-lb (75-81 N-m)
Gearbox Mounting Bolts	16-18 ft-lb (22-24 N-m)
Drive Shaft Set Screw	18 ft-lb (24 N-m)
Drive Shaft Pinch Bolt	44 ft-lb (60 N-m)
Cutter Housing Spindle Nut	140-145 ft-lb (190-197 N-m)
Anti-Scalp Roller Nyloc Nut See Figure 12	30-35 ft-lb (41-47 N-m)
Anti-Scalp Roller Whizlock Nut See Figure 12	30-35 ft-lb (41-47 N-m)

Setup

⚠ WARNING

Operating a FrontRunner tractor without an approved Exmark front mount attachment increases the possibility of forward tip over. Tip-over could cause serious injury or death.

When operating a FrontRunner tractor without an approved Exmark front mount attachment, observe the following:

- **Limit operation to minimum required to install a different front mount attachment.**
- **Minimize speed and use extreme caution.**
- **Only operate on a flat level surface.**
- **Do Not operate up or down a trailer ramp.**
- **Avoid sudden acceleration or deceleration.**

Assemble Deck to FrontRunner

Important: Do Not transport Frontrunner tractor without and approved Exmark front mount attachment.

1. Stop the engine, wait for all moving parts to stop, engage the parking brake, and remove the key.
2. Rotate the fold lock lever, located on the deck, in the unlocked position (Figure 3).

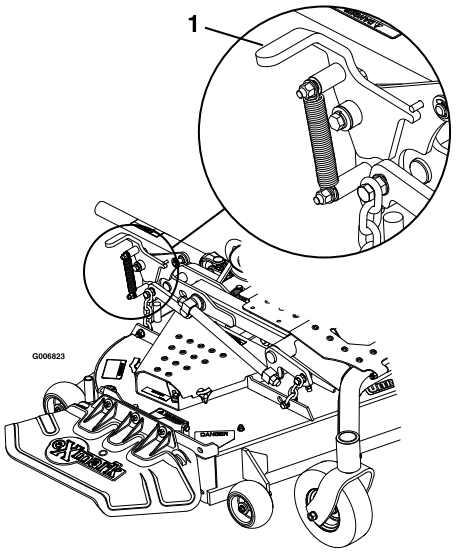


Figure 3

1. Fold lock lever shown in the unlocked position

3. On the tractor, remove the two retaining pins on hitch latches so the latches can actuate freely. Raise the floor pan and lock in upright position (Figure 4).

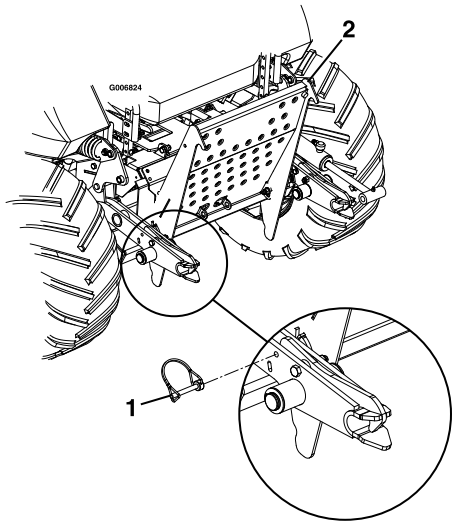


Figure 4

1. Remove the retaining pins from both hitch latches
2. Floor pan shown locked in the upright position

4. Align the front frame of the mower deck to the Frontrunner tractor hitch.
5. Manually lift up on the hitch to get the bars on the front frame started into the receivers of the hitch.
6. Push the front frame towards the tractor until the two hitch latches seat into the "secure" position.

7. Insert the hitch latch retaining pins into the hitch pin lock. The deck is now locked onto the tractor.
8. Reinstall the key and turn the switch to the "run" position. Do Not start the engine.
9. Align the cylinder rod end to the top hole of the float link bracket and insert the pin as shown in Figure 5. Insert the cotter hairpin to lock the cylinder pin into place.

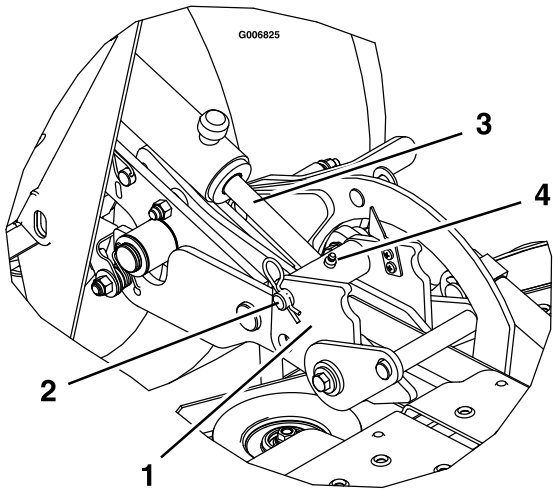


Figure 5

1. Float link bracket
2. Cylinder pin
3. Cylinder
4. Be sure grease zerk is pointed upward

⚠ WARNING

Incorrectly raising or lowering a mower deck can be dangerous. A dropped mower deck can result in a serious injury or property damage.

- **Always raise and lower deck on flat, dry ground, free of any obstructions.**
- **Always make sure the deck is securely latched in the "up" or "down" position.**

10. Retract the cylinder to fold the deck upward. Attach the weight transfer chains. It is very important not to twist the chains. Lock the chains onto the pin by inserting the cotter hairpin (Figure 6).

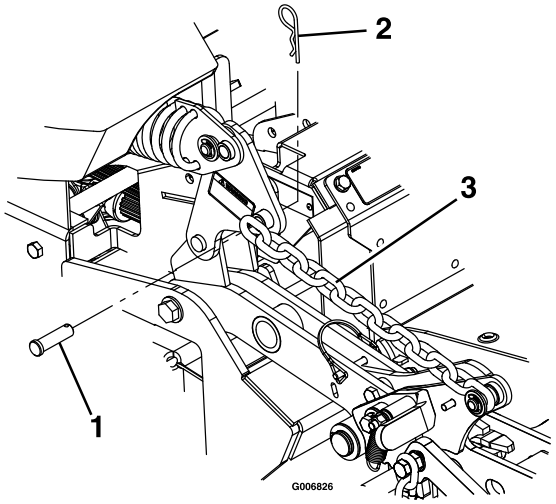


Figure 6

1. Retaining pin
2. Cotter hairpin
3. Weight transfer chains

⚠ WARNING

Operating the mower deck in the raised service position can be dangerous. Engaging the PTO with a deck in the raised position can result in a serious injury or property damage.

Always lower and lock mower deck in the operation position before engaging the PTO.

11. Extend the cylinder fully until the caster wheels contact the ground and the deck is in the fully raised position. The fold lock levers should have reset and snapped into the "locked" position. Lower the floor pan.

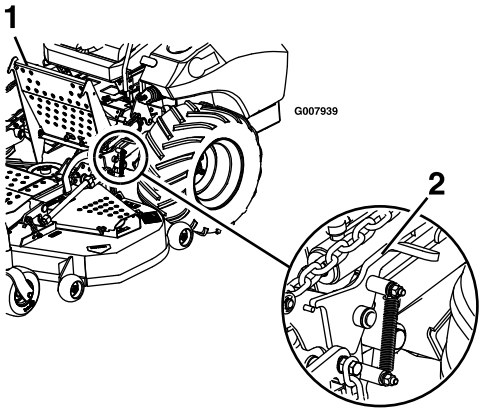


Figure 7

1. Floor pan
2. Rotate fold lock lever to upright position.

⚠ WARNING

Operating mower without fold lock levers securely latched can result in the mower deck folding up unexpectedly and can cause serious injury.

Always operate mower with the fold lock levers securely latched.

12. Connect the drive shaft by pushing back the spring loaded collar. Align and couple the drive shaft to the splined drive shaft and release the collar (Figure 8).

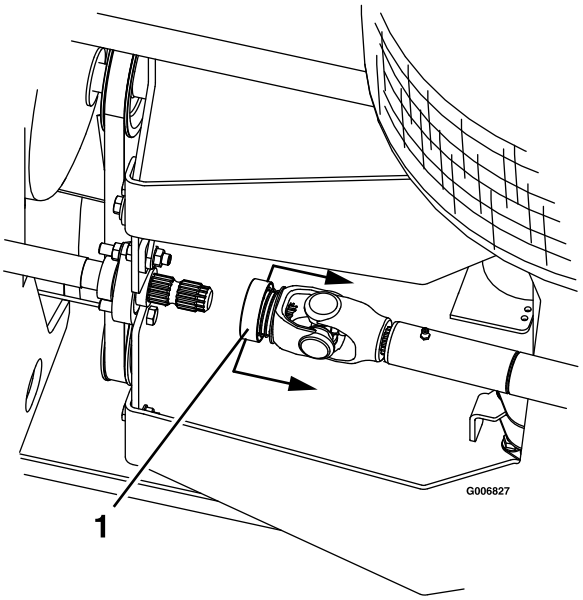


Figure 8
Viewed from below the machine

1. Push spring loaded collar towards deck

Deck Removal

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Disconnect the drive shaft by pulling back on the spring loaded collar and pulling away from the splined shaft (see Figure 8). Lay the drive shaft on the ground.
3. Insert key and turn to the "run" position. Do Not start the engine.
4. Extend the cylinder until the fold lock latches are unloaded, and then rotate them toward the tractor.
5. Retract the cylinder and partially fold the deck just to the point where the weight transfer chains go slack.
6. Pull out the hairpins and chain pins from the clevis bracket. Place the pin and cotter hairpin on the chain and set aside.
7. Lower the deck by extending the cylinder until the deck folds down. The caster tires should touch the ground.
8. The float link brackets will start to rotate forward and at this point, the cylinder can be detached at the rod end by pulling the pin out of the bracket. Lift the cylinder out of the way and position the rod end so that it rests on the buckle of the height indicator bracket.
9. Remove the hitch latch pins from the hitch brackets. Raise the hitch latch above the hole and insert pin. The top of the hitch latch should rest under the pin (see Figure 9).

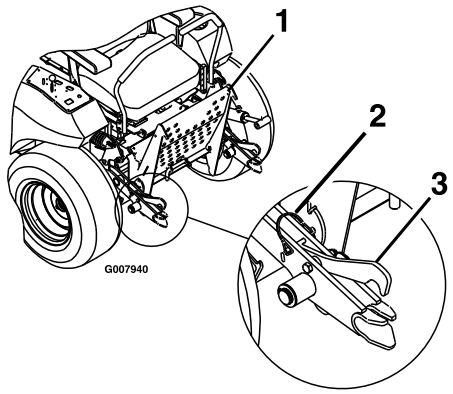


Figure 9

1. Floor pan locked in upright position
2. Hitch latch pins
3. Hitch latches in "up" position

10. Stand in front of the deck and pull the unit away from the tractor or back the tractor away from the deck.

Important: Do Not transport FrontRunner tractor without an approved Exmark front mount attachment.

Product Overview

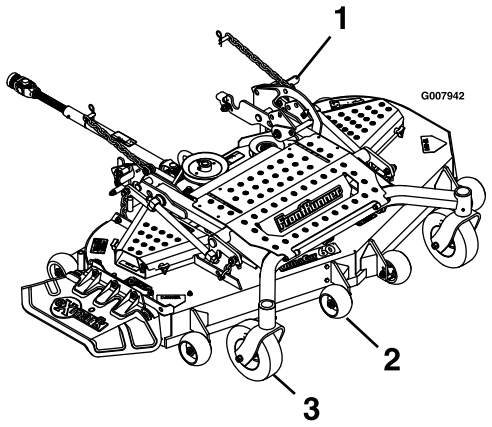


Figure 10

1. Fold lock lever
2. Anti-scalp rollers
3. Caster wheel

Operation

Deck Raising and Lowering

Setting the Cutting Height

The cutting height of the mower deck is adjusted from 1 to 5 inches (2.5 cm to 12.7 cm) infinitely variable.

1. The key must be in the "run" position to set the cut height.
2. Extend or retract cylinder until the cutting height indicator points to the desired cut height.

Adjusting the Anti-Scalp Rollers

It is recommended to change the anti-scalp roller position, when the height of cut has changed.

1. Stop the machine and move the motion control levers outward to the neutral locked position.
2. Disengage the PTO.
3. Engage the park brake.
4. Stop the engine, remove the key and wait for all moving parts to stop.
5. After adjusting the height of cut, adjust the anti-scalp rollers by removing the whizlock nut and the spring disc washer.
6. Place the rollers in one of the positions shown (Figure 11). Rollers will maintain 3/4 inch (19 mm) clearance to the ground to minimize gouging and roller wear or damage.

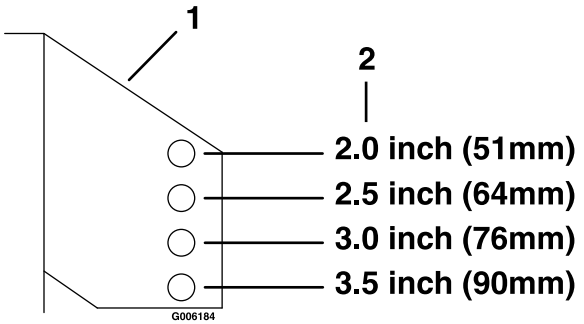


Figure 11

For cutting heights above 3.5 inches (90 mm) use the bottom hole. The rollers will still be effective against scalping.

1. Anti-scalp roller mounting bracket
2. Cutting height

For Maximum Deck Flotation, place the rollers one hole position lower. Rollers should maintain 1/4 inch (6.4 mm) clearance to the ground. **Do Not** adjust the rollers to support the deck.

7. Be sure the whizlock nuts are installed with the spring disc washer between the flange of the nut and the mounting bracket (see Figure 12).
8. Torque the 3/8-16 whizlock nut to 30-35 ft-lb (41-47 N-m) (Figure 12).
9. If the 3/8 nyloc nut has been removed, re-install and torque it to 30–35 ft-lb (41-47 N-m) (Figure 12).

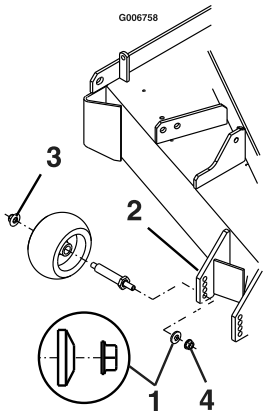


Figure 12

1. Spring disc washer (cone towards nut)
2. Front right anti-scalp bracket shown
3. 3/8 nyloc-torque to 30-35 ft-lb (41-47 N-m)
4. 3/8-16 whizlock nut torque to 30-35 ft-lb (41-47 N-m)

Raising the Mower Deck into Service Position

1. Stop engine, wait for all moving parts to stop, engage parking brake, and turn key to "run" position. Do Not start the engine.

⚠ WARNING

Incorrectly raising or lowering a mower deck can be dangerous. A dropped mower deck can result in a serious injury or property damage.

- **Always raise and lower deck on flat, dry ground, free of any obstructions.**
- **Always make sure the deck is securely latched in the "up" or "down" position.**

2. Fully extend the cylinder to unload the fold lock levers.
3. Rotate the fold lock levers, located on each side of the deck, to the unlocked position (Figure 3).
4. Retract the cylinder and the deck will fold to approximately 50 degrees.

⚠ WARNING

Operating the mower deck in the raised service position can be dangerous. Engaging the PTO with a deck in the raised position can result in a serious injury or property damage.

Always lower and lock mower deck in the operation position before engaging the PTO.

Raising the Mower Deck into the Storage Position

1. Stop engine, wait for all moving parts to stop, engage parking brake, and turn key to "run" position. Do Not start the engine.
2. Flip up the floor pan and remove full fold pin. Retract the cylinder to align holes in float link bracket with holes in front frame. (Deck will be at or near lowest height.) Insert into the bottom hole of the float link bracket (see Figure 13). Lower the floor pan.

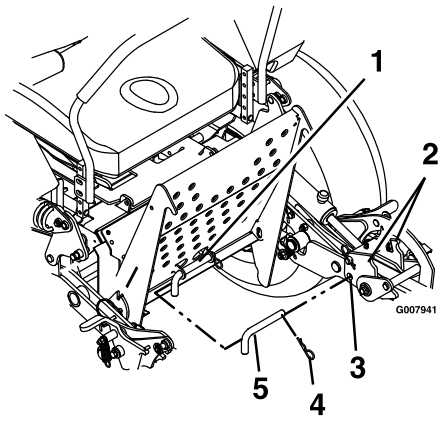


Figure 13

1. Remove the hairpin and full fold pin
2. Float link brackets
3. Insert pin here
4. Hairpin
5. Full fold pin

⚠ WARNING

Folding the mower deck with the floor pan in locked position may be dangerous. Hooks will not automatically drop in the slots on the front cover.

Make sure the floor pan is not locked in the upright position.

3. Fully retract cylinder. The deck will fold to an approximate 70 degree angle.

⚠ WARNING

Driving the mower deck in the folded service position can be dangerous. The mower can tip forward.

Always lower and lock mower deck in the operation position before driving.

Lowering the Mower Deck to the Operating Position

1. Make certain that you and any observers are clear of the deck.
2. Raise the floor pan to the locked position as shown in Figure 13.
3. Extend the cylinder until the front caster wheels just touch the ground.
4. If the full fold pin was used when the deck was folded, remove it from the float link and place it in the storage location under the floor pan.
5. Fully extend the cylinder until it stops. Confirm that the latches are in the locked position.
6. Retract the cylinder until the deck lowers to the desired cut height reading shown on the height indicator bar.

⚠ WARNING

Operating mower without locking latches securely latched can result in the mower deck folding up unexpectedly. The mower deck folding up unexpectedly can cause serious injury.

Always operate mower with locking latches securely latched.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

⚠ WARNING

While maintenance or adjustments are being made, someone could start the engine. Accidental starting of the engine could seriously injure you or other bystanders.

Remove the key from the ignition switch, engage parking brake, and pull the wire(s) off the spark plug(s) before you do any maintenance. Also push the wire(s) aside so it does not accidentally contact the spark plug(s).

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 50 hours	• Change oil in all three gearbox housings. Add oil as needed until level with oil drain plug.
Before each use or daily	• Check the mower blades. • Check for loose hardware. • Grease the front caster wheel hub. • Clean the grass build-up from under the deck.
Every 40 hours	• Check the condition of the belts. • Grease the drive shaft. • Grease the height adjustment shaft bearings.
Every 100 hours	• Change oil in all three gearbox housings. Add oil as needed until level with oil drain plug. • Grease the deck flip-up.
Yearly	• Grease the front caster pivots. • Grease the deck drive belt idler arm.

Periodic Maintenance

Check Mower Blades

Service Interval: Before each use or daily

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Inspect blades and sharpen or replace as required.
3. Reinstall the blades (if they were removed) in the following order:
   A. Install bushing through blade with bushing flange on bottom (grass) side of blade.

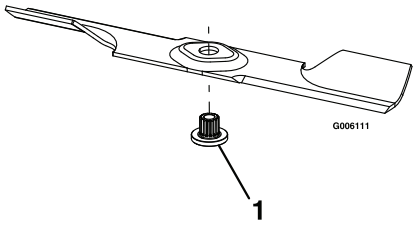


Figure 14

1. Install bushing in blade prior to installing bushing in spindle.

B. Install bushing/blade assembly into spindle.

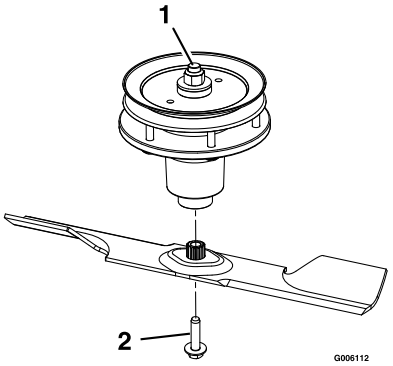


Figure 15

1. Use wrench here for blade installation. This nut has been torqued to 90–110 ft-lb (122–149 N-m)
2. Torque to 55-60 ft-lb (75-81 N-m) Apply lubricant to threads as needed to prevent seizing. Copper-based anti-seize preferable. Grease acceptable substitute.

C. Apply lubricant to threads of blade bolt as needed to prevent seizing. Copper-based anti-seize preferable. Grease acceptable substitute. Install blade bolt finger tight. Place wrench on the top spindle nut then torque the blade bolts to 55-60 ft-lb (75-81 N-m).

⚠ WARNING

Incorrect installation of the blade or components used to retain the blade can be dangerous. Failure to use all original components and assembled as shown could allow a blade or blade component to be thrown out from under the deck resulting in serious personal injury or death.

Always install the original Exmark blades, blade bushings, and blade bolts as shown.

Check for Loose Hardware

Service Interval: Before each use or daily

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Visually inspect machine for any loose hardware or any other possible problem. Tighten hardware or correct the problem before operating.

Check Tire Pressures

Service Interval: Every 40 hours

The front caster tires are semi-pneumatic and Do Not need to be inflated.

Change Gearbox Oil

Service Interval: After the first 50 hours
Every 100 hours thereafter

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Place unit on a level surface.
3. Remove the gearbox and drive shaft assembly from the mower deck. Retain hardware for re-use.
4. Remove the oil drain plug on the side of the gearbox section and drain oil (Figure 16).

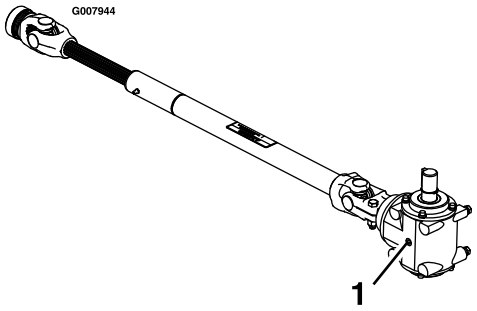


Figure 16

1. Oil drain/fill plug

5. Reinstall the gearbox and drive shaft assembly to the mower deck.
6. Fill gearbox with Mobil SHC (synthetic) 75W-90 gear lube oil until level with oil drain/fill plug.

   Note: Mower deck should remain level to the ground when filling gearbox with oil. Do Not fill gearbox with deck raised in the service position.
7. Apply a Teflon pipe sealant to the oil plug and re-install into the gearbox.

Lubricate Grease Fittings

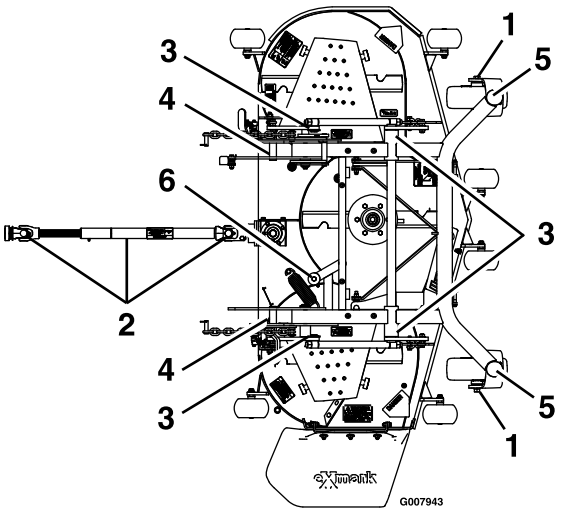
Note: See chart for service intervals.

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Lubricate fittings with NGLI grade #2 multi-purpose gun grease.

   Refer to the following chart for fitting locations and lubrication schedule.

Lubrication Chart			
Fitting Locations	**Initial Pumps**	**Number of Places**	**Service Interval**
1. Front Caster Wheel Hub	1	2	8 Hours
2. Drive Shaft	1	3	40 Hours
3. Height Adjustment Shaft Bearings	1	4	40 Hours
4. Deck Flip-Up	1	2	100 Hours
5. Front Caster Pivots	*0	2	*Yearly
6. Deck Drive Belt Idler Arm	1	1	Yearly

* See step 3 for special lubrication instructions on the front caster pivots.



3. Lubricate caster pivots once a year. Remove hex plug and cap. Thread grease zerk in hole and pump with grease until it oozes out around top bearing. Remove grease zerk and thread plug back in. Place cap back on.

Thread Locking Adhesives

Thread locking adhesives such as "Loctite 242" or "Fel-Pro, Pro-Lock Nut Type" are used on the following fasteners:

- Spindle top nut.
- Drive shaft set screw at the gearbox.
- Large nuts at the ends of the deck lift links.
- Setscrews on the gearbox sheave.

Adjustments

Note: Disengage PTO, shut off engine, wait for all moving parts to stop, engage parking brake, and remove key before servicing, cleaning, or making any adjustments to the unit.

Deck Leveling

1. Position mower on a flat surface.
2. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
3. Check tire pressure in drive tires.

   For Units Equipped With Turf Tires: The drive tires should be inflated to 13 psi (90 kpa).

   For Units Equipped With Bar-Lug Tires: The drive tires should be inflated to 9 psi (62 kpa).
4. Fully extend the cylinder to raise the deck as high as it will go (this is also the transport position). Note the position of the cut height indicator. Adjust the indicator if necessary so that the indicator is pointing to the 5 inch cut height mark (see Figure 17).

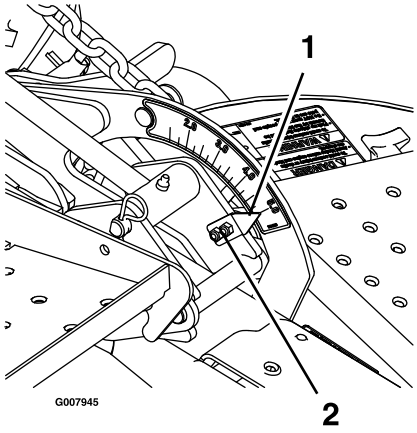


Figure 17

1. Cut height indicator
2. Adjust indicator using these screws

5. Lower the deck to the 4 inch cut height position and remove ignition key. Orient the blades longitudinally with respect to the machine. Stand a wooden block approximately 5 inches tall next to the front blade tip of the center blade; mark the location of the blade tip on the block. Remove the block and measure height on the block, it should be 4 inches. Repeat this process for the rear blade tip of both the left and right blades, those should measure 4 1/4 inches to give the recommended 1/4 inch positive rake (see Figure 18).

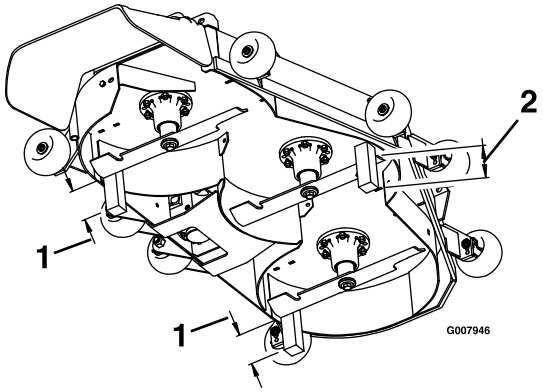


Figure 18

1. 4 1/4 inches
2. 4 inches

6. If adjustments are necessary, four socket head 5/16-18 x 1-1/4 inch screws have been provided in the literature bag. Install these screws into the deck lift arms until they touch the hex head deck chain screws. Loosen the top chain screws in slots in the deck lift arms (see Figure 19). Turn the socket head screws to move the deck chain screws up and down to correct the cut heights measured above. Tighten the chain bolts in the deck lift arms making sure they don't move while tightening.

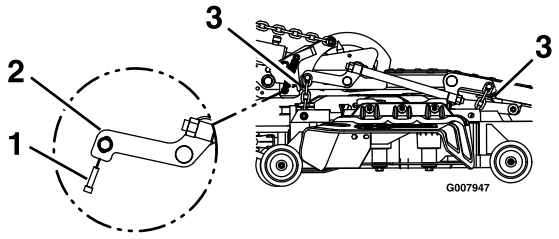


Figure 19

1. Socket head screw
2. Deck lift arms
3. Adjust screw and locknut

Caster Pivot Bearings Pre-load Adjustment

Remove dust cap from caster and tighten nyloc nut until washers are flat. Back the nyloc off 1/4 of a turn to properly set the pre-load on the bearings.

Note: If disassembled, make sure the spring washers are reinstalled as shown in Figure 20.

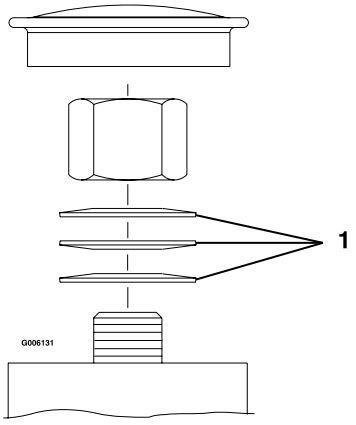


Figure 20

1. Spring disc washers

Cleaning

Clean Grass Build-Up Under Deck

Service Interval: Before each use or daily

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Fold mower deck and secure in latched position. See **Raising the Mower Deck to the Service Position** section in Operation.
3. Clean out any grass build-up from underside of deck and in discharge chute.
4. Lower deck to cutting position and lock deck locking pins. See **Lowering the Mower Deck to the Operation Position** section in Operation.

Troubleshooting

Important: It is essential that all operator safety mechanisms be connected and in proper operating condition prior to mower use.

When a problem occurs, do not overlook the simple causes. For example: starting problems could be caused by an empty fuel tank.

The following table lists some of the common causes of trouble. Do Not attempt to service or replace major items or any items that call for special timing of adjustments procedures (such as valves, governor, etc.). Have this work done by your **Engine Service Dealer**.

Note: When disconnecting electrical connectors Do Not pull on the wires to separate the connectors.

Problem	Possible Cause	Corrective Action
Uneven cutting height.	1. Blade(s) not sharp. 2. Cutting blade(s) is/are bent. 3. Mower deck is not level. 4. Underside of mower is dirty. 5. Tire pressure in drive tires not correct. 6. Blade spindle is bent. 7. Tips of adjacent blades are at an uneven cutting height. Blades tips should be even within 3/16 inch which is approximately one blade thickness.	1. Sharpen the blade(s). 2. Install new cutting blade(s). 3. Level mower deck from side-to-side and front-to-rear. 4. Clean the underside of the mower. 5. Adjust tire pressure in the drive tires. 6. Contact an Authorized Service Dealer. 7. Replace blades, spindles and (or) check for damage to mower deck.
Abnormal vibration.	1. Cutting blade(s) is/are bent or unbalanced. 2. Blade mounting bolt is loose. 3. Engine mounting bolts are loose. 4. Engine pulley is damaged. 5. Blade spindle is bent. 6. Belt is damaged.	1. Install new cutting blade(s). 2. Tighten the blade mounting bolt. 3. Tighten the engine mounting bolts. 4. Contact an Authorized Service Dealer. 5. Contact an Authorized Service Dealer. 6. Install new belt.
Blades Do Not rotate.	1. PTO belt is worn, loose, or broken. 2. PTO shaft is not connected. 3. PTO belt is off pulley.	1. Check belt tension or replace belt 2. Connect PTO shaft. 3. Check belt and pulleys for damage. Install belt and check adjusting shafts and belt guides for correct position.

2-Year Limited Warranty
Exmark Turf Equipment

(For units purchased on or after October 1, 2004)

Conditions and Products Covered

Exmark Mfg. Co. Inc. and its affiliate, Exmark Warranty Company, pursuant to an agreement between them, jointly warrant on the terms and conditions herein, that we will repair, replace or adjust any part manufactured by Exmark and found by us (in the exercise of our reasonable discretion) to be defective in factory materials or workmanship for a period of two years.

This warranty applies to Exmark turf equipment purchased on or after October 1, 2004 sold in the US or Canada. This warranty may only be assigned or transferred to a second (or third) owner by an authorized Exmark dealer. The warranty period commences upon the date of the original retail purchase.

Products	Warranty Period
• All Products (except as noted below)	2 years
• All Attachments and Accessories	1 year
• Metro 21 and Metro 26 Series	1 year
• Belts and Tires	90 days
• Battery	1 Year Prorated
• Engine*	Warranty is covered by engine manufacturer

* Please refer to the engine manufacturer's warranty statement that is included in the literature packet. We are not authorized to handle warranty adjustments on engines.

This warranty only includes the cost of parts and labor.

Items and Conditions Not Covered

This warranty does not cover the following:

- Pickup and delivery charges to and from any authorized Exmark Service Dealer beyond first warrantable service.
- Any damage or deterioration due to normal use, wear and tear, or exposure.
- Cost of regular maintenance service or parts, such as filters, fuel, lubricants, tune-up parts, and adjustments.
- Any product or part which has been altered or misused or required replacement or repair due to normal wear, accidents, or lack of proper maintenance.
- Any repairs necessary due to use of parts, accessories or supplies, including gasoline, oil or lubricants, incompatible with the turf equipment or other than as recommended in the operator's manual or other operational instructions provided by Exmark.

There are no other express warranties except for engine and special emission system coverage stated elsewhere herein or included with the product.

All warranty work must be performed by an authorized Exmark Service Dealer using Exmark approved replacement parts.

Instructions for Obtaining Warranty Service

The product must be registered with original proof of purchase by an Exmark Service Dealer before obtaining any warranty service.

Contact any Exmark Service Dealer to arrange service at their dealership. To locate a dealer convenient to you, access our website at www.exmark.com. U.S. Customers may also call 402-223-6375.

If for any reason you are dissatisfied with the Service Dealer's analysis or with the assistance provided, contact us at:

Exmark Customer Service Department
The Exmark Warranty Company
2101 Ashland Avenue
Beatrice, NE 68310
402-223-6375 or
service@exmark.com

Owner's Responsibilities

The Exmark turf equipment, including any defective part, must be returned to an authorized Exmark service dealer within the warranty period. This warranty extends only to turf equipment operated under normal conditions. You must read the operator's manual. You must also properly service and maintain your Exmark product as described in the operator's manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

General Conditions

The sole liability of Exmark and Exmark Warranty Company with respect to this warranty shall be repair and replacement of defective components as set forth herein. **Neither Exmark nor Exmark Warranty Company shall have any liability for any other cost, loss or damage, including but not limited to, any incidental or consequential loss or damage.**

In particular, we shall have no liability or responsibility for:

- Expenses related to gasoline, oil or lubricants.
- Travel time, overtime, after hours time or other extraordinary repair charges or charge relating to repairs or replacements outside of normal business hours at the place of business of the authorized Exmark Service Dealer.
- Rental of like or similar replacement equipment during the period of any warranty, repair or replacement work.
- Any telephone or telegram charges or travel charges.
- Loss or damage to person or property other than that covered by the terms of this warranty.
- Any claims for lost revenue, lost profit or additional cost as a result of a claim of breach of warranty.
- Attorney's fees.

No Claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Exmark mower.

Some states do not allow exclusions of incidental or consequential damages, so the above exclusions and limitations may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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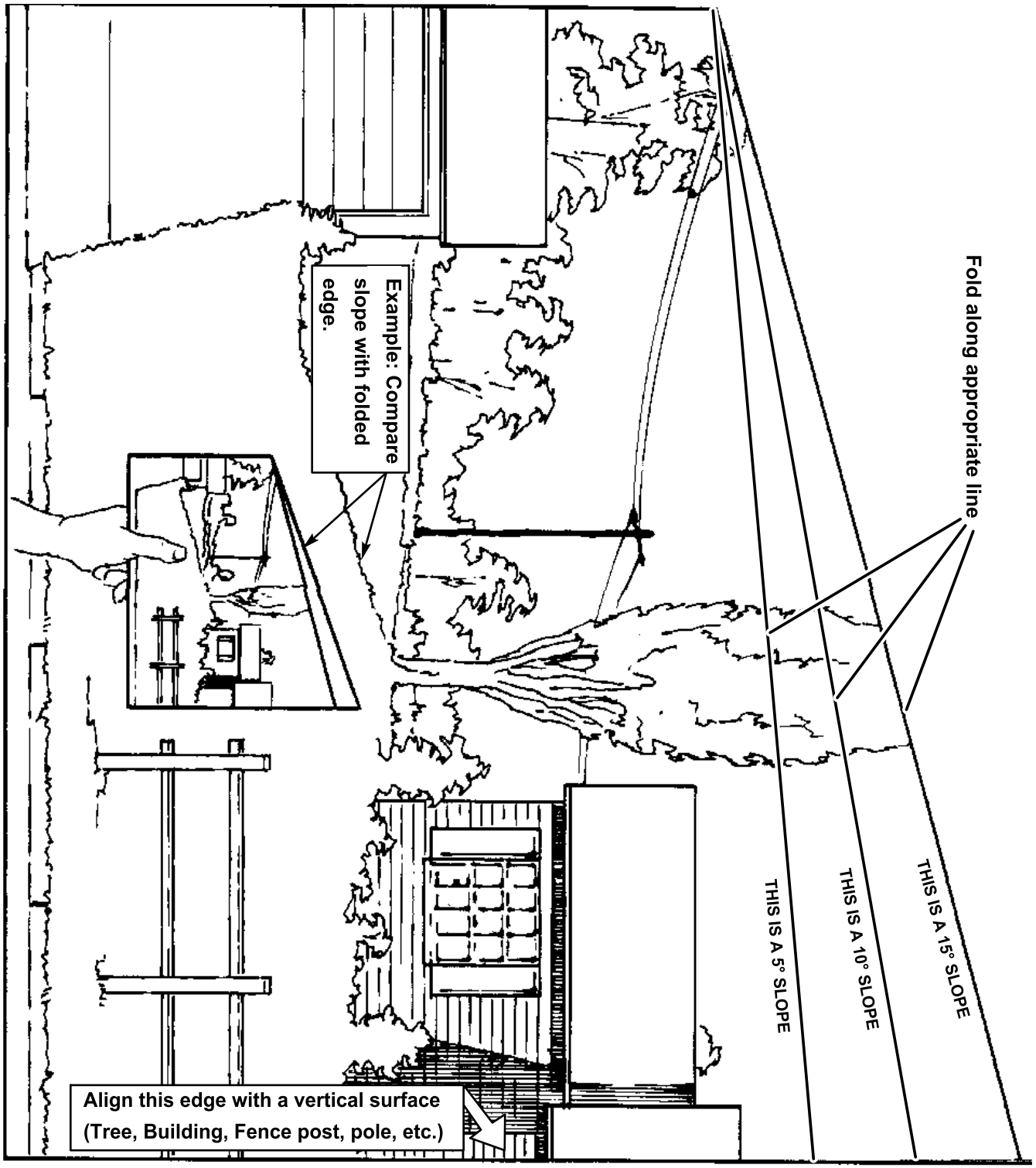
Notes:

Notes:

Service Record

Date:	Description of Work Done:	Service Done By:


Fold along appropriate line
THIS IS A 15° SLOPE
THIS IS A 10° SLOPE
THIS IS A 5° SLOPE
Example: Compare slope with folded edge.
Align this edge with a vertical surface
(Tree, Building, Fence post, pole, etc.)

SEE EXMARK'S COMPLETE LINE OF ACCESSORIES

MID-MOUNT RIDING ACCESSORIES

CUSTOM RIDE SEAT SUSPENSION SYSTEM
DECK LIFT ASSIST KIT
HITCH KIT
LAZERLOCKER
LIGHT KIT
MICRO-MULCH SYSTEM
OPERATOR CONTROLLED DISCHARGE
ROLL OVER PROTECTION SYSTEM (ROPS)
SNOW BLADE
SUN SHADE
TRASH CONTAINER
TURF STRIPER
ULTRA VAC COLLECTION SYSTEM
ULTRA VAC QUICK DISPOSAL SYSTEM

OUT-FRONT RIDING ACCESSORIES

CUSTOM RIDE SEAT SUSPENSION SYSTEM
DUAL-TAIL WHEEL
FLOOR PAN EXTENDER
HITCH KIT
LIGHT KIT
MICRO-MULCH SYSTEM
ROLL OVER PROTECTION SYSTEM (ROPS)
ROTARY BROOM
SNOW BLADE
SNOWBLOWER
SUN SHADE
TRASH CONTAINER
ULTRA VAC COLLECTION SYSTEM
ULTRA VAC QUICK DISPOSAL SYSTEM
WEATHER CAB

WALK-BEHIND ACCESSORIES

GRASS CATCHER
LAZERLOCKER
MICRO-MULCH SYSTEM
TURF STRIPER
STANDON

Place Model No. and Serial No. Label Here (Included in the Literature Pack) or Fill in Below

Model No. _____

Serial No. _____

Date Purchased _____

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